

ABSTRACT OF THE DISCLOSURE

There is provided a laser processing apparatus, a multilayer printed wiring board manufacturing apparatus, and
5 a manufacturing method to form via holes of ultra-fine diameter. The laser beam from the CO₂ laser oscillator (60) is converted to the shortened wavelength beam by a tellurium crystal (94) to control diffraction of the laser beam. Simultaneously, when the laser beam is condensed, a limit value of the condensation
10 limit is reduced. Thereby, the spot diameter of laser beam is reduced and a hole for via hole is bored on the interlayer insulation resin on a substrate (10). Therefore, even when the laser beam output is raised to form a deeper hole, the hole diameter is not widened and thereby a hole for a small diameter
15 via hole can be formed.